

**AMENDMENTS TO THE CLAIMS**

Please amend the claims as follows.

1. — 9. (Cancelled)

10. (Currently amended) ~~In a simulation system used by an operator, a~~ A method of ~~[[for]]~~ generating a ~~[[set]]~~ plurality of simulation results for an oilfield reservoir, ~~in response to a set of input data and displaying said set of simulation results, comprising the steps of~~ comprising:

obtaining a plurality of cases and a plurality of scenarios comprising a plurality of grid geometry parameters describing the oilfield reservoir, wherein each of the plurality of cases and the plurality of scenarios is a simulator input file;

generating a tree comprising a first case as a root node of the tree, a first scenario as a first child node of the root node, a second case as a second child node of the root node, and a second scenario as a child node of the second child node, wherein the grid geometry parameters of the first case and the second case are different, wherein the grid geometry parameters of the first case and the first scenario are identical, and wherein the grid geometry parameters of the second case and the second scenario are identical;

~~storing said input data~~ the tree ~~in a case manager storage medium in the form of a hierarchical, non-conventional tree like structure, said input data including a plurality of sets of data and a plurality of supersets of said data, wherein each set and superset is a test data file for performing a simulation, each superset defining a case scenario of its related set, said sets of said data and said supersets of said data being stored in said case manager storage medium in the form of said tree like structure, having a root and one or more leaves, said tree like structure being non-conventional in that supersets underlie corresponding ones of said sets in said tree like structure, such that one or more of said sets is situated between the root and the corresponding superset, and with said sets of said data and said supersets of said data adapted to be selected by said operator;~~

selecting a plurality of simulator input files from the tree, wherein the plurality of scenarios includes the first scenario and the second scenario, and wherein the plurality of cases includes the first case and the second case;

~~generating said sets of said data from said case manager storage medium when said sets of data are selected by said operator;~~  
submitting the plurality of simulator input files ~~said sets of data~~ to a simulator, wherein the simulator executes a simulation of the oilfield reservoir based on the plurality of simulator input files to generate the plurality ~~in response to the generating step;~~  
~~said simulator executing and generating said set of simulation results for the oilfield reservoir;~~  
obtaining the plurality of simulation results ~~in response to said sets of data;~~ and  
displaying ~~said set~~ the plurality of simulation results.

11. — 19. (Cancelled)

20. (Currently amended) A simulation system for generating a plurality of simulation results for an oilfield reservoir, comprising:

a plurality of cases and a plurality of scenarios comprising a plurality of grid geometry parameters describing the oilfield reservoir, wherein each of the plurality of cases and the plurality of scenarios is a simulator input file;

a case manager ~~adapted for storing~~ configured to generate a tree comprising a first case as a root node of the tree, a first scenario as a first child node of the root node, a second case as a second child node of the root node, and a second scenario as a child node of the second child node, wherein the grid geometry parameters of the first case and the second case are different, wherein the grid geometry parameters of the first case and the first scenario are identical, and wherein the grid geometry parameters of the second case and the second scenario are identical; ~~input data therein and organizing said input data in said case manager in a hierarchical, non-conventional tree-like structure, having a root and one or more leaves, said input data including a set of data and a corresponding superset of said set of data, wherein each set and superset is a test data file for performing a simulation, each superset defining a case scenario of its related set, the tree-like structure being non-conventional in that said superset of said set of data underlies said set of data in said tree-like structure, such that one or more of said sets is situated between the root and the corresponding superset, a superset storing data therein which is~~

~~also stored in a corresponding set of data but said superset further storing additional data therein which is not stored in said corresponding set of data, with at least one of said set of data and said corresponding superset of said set of data adapted to be selected by an operator from the tree like structure of said case manager;~~

a simulator configured to execute a simulation of the oilfield reservoir and generate the plurality responsive to said at least one of said set of data and said corresponding superset of said sets of data which is selected by said operator from the tree like structure in said case manager adapted for executing and using, during the execution, said at least one of said set of data and said corresponding superset of said set of data thereby generating a set of simulation results for the oilfield reservoir based on a plurality of simulation input files selected from the tree, wherein the plurality of cases includes the first case and the second case, and wherein the plurality of scenarios includes the first scenario and the second scenario; and

an output device means for displaying or recording said set the plurality of simulation results.

21. (Cancelled)

22. (Currently Amended) A computer readable medium storing instructions for generating a plurality of simulation results for an oilfield reservoir, the instructions comprising functionality to: device adapted for storing instructions which, when executed by a processor, conducts a process comprising the steps of:

obtain a plurality of cases and a plurality of scenarios comprising a plurality of grid geometry parameters describing the oilfield reservoir, wherein each of the plurality of cases and the plurality of scenarios is a simulator input file;

generate a tree comprising a first case as a root node of the tree, a first scenario as a first child node of the root node, a second case as a second child node of the root node, and a second scenario as a child node of the second child node, wherein the grid geometry parameters of the first case and the second case are different, wherein the grid geometry parameters of the first case and the first scenario are identical,

and wherein the grid geometry parameters of the second case and the second scenario are identical;  
submit the plurality of simulator input files to a simulator, wherein the simulator executes a simulation of the oilfield reservoir based on the plurality of simulator input files to generate the plurality of simulation results for the oilfield reservoir;  
obtain the plurality of simulation results; and  
display the plurality of simulation results.

~~a case scenario of its related set, said at least one set and at least one superset being organized in said case manager in a hierarchical, non-conventional tree like structure, having a root and one or more leaves, the tree like structure being non-conventional in that said superset of said set of data underlies said set of data in said tree like structure, such that one or more of said sets is situated between the root and the corresponding superset, said set of data including a first group of data, said superset of said set of data including said first group of data plus additional data which is not included in said set of data,~~

~~(b) selecting, by an operator, either said set of data or said superset of said set of data, the data selected during the selecting step (b) representing said input data used by said simulator during said execution of said simulator, and~~

~~(c) executing said simulator using said data selected during the selecting step~~  
~~[[ (b) ]]~~ ~~[.]~~

23. (Cancelled)

24. (Currently Amended) ~~In a simulation~~ A computer ~~system including a case manager and a simulator operatively connected to said case manager, said case manager including a plurality of sets of data and a corresponding plurality of supersets of data, wherein each set and superset is a test data file for performing a simulation, each superset defining a case scenario of its related set, the plurality of sets of data and the plurality of supersets of data being organized together in said case manager in the form of a hierarchical, non-conventional tree like structure, having a root and one or more leaves, each of said sets of~~

~~data including a group of data, each of the corresponding supersets of data including said group of data plus additional data not included within the corresponding sets of data, the tree like structure being non-conventional in that the superset of said data underlie the corresponding sets of data in the tree like structure, such that one or more of said sets is situated between the root and the corresponding superset, a method of performing a simulation, comprising the steps of:~~

a processor;

a memory operatively connected to the processor; and

a plurality of instructions stored in the memory comprising functionality to:

~~(a) selecting, by an operator, at least one of said sets of data or at least one of said supersets of data in said tree like structure of said case manager, the selected data being generated from said case manager when the selected data is selected by said operator;~~

obtain a plurality of cases and a plurality of scenarios comprising a plurality of grid geometry parameters describing the oilfield reservoir, wherein each of the plurality of cases and the plurality of scenarios is a simulator input file;

generate a tree comprising a first case as a root node of the tree, a first scenario as a first child node of the root node, a second case as a second child node of the root node, and a second scenario as a child node of the second child node, wherein the grid geometry parameters of the first case and the second case are different, wherein the grid geometry parameters of the first case and the first scenario are identical, and wherein the grid geometry parameters of the second case and the second scenario are identical;

submit the plurality of simulator input files to a simulator, wherein the simulator executes a simulation of the oilfield reservoir based on the plurality of simulator input files to generate the plurality of simulation results for the oilfield reservoir;

obtain the plurality of simulation results; and

display the plurality of simulation results.

- ~~(b) receiving said selected data, selected by said operator during the selecting step (a), in said simulator, and~~  
~~(c) performing, by said simulator, said simulation and using, by said simulator, said selected data which is received in said simulator during the receiving step (b).~~

25. — 27. (Cancelled)

28. (New) The method of claim 10, wherein the plurality of scenarios further comprises a plurality of permeability parameters, a plurality of pressure parameters, and a plurality of temperature parameters describing the oilfield reservoir.

29. (New) The method of claim 10, wherein the first case further comprises a radial model type.

30. (New) The method of claim 10, further comprising:

- obtaining a first plurality of keywords from the plurality of simulator input files;
- generating a second plurality of keywords by editing the first plurality of keywords; and
- submitting the second plurality of keywords to the simulator, wherein the simulation of the oilfield reservoir is further based on the second plurality of keywords.

31. (New) The method of claim 10, further comprising:

- storing the plurality of simulation results in a results file.

32. (New) The method of claim 10, further comprising:

- generating a report documenting the plurality of simulation results.

33. (New) The simulation system of claim 20, wherein the plurality of scenarios further comprises a plurality of permeability parameters, a plurality of pressure parameters, and a plurality of temperature parameters describing the oilfield reservoir.

34. (New) The simulation system of claim 20, wherein the first case further comprises a radial model type.

35. (New) The simulation system of claim 20, further comprising:

a case builder operatively connected to the case manager and configured to obtain a first plurality of keywords from the plurality of simulator input files, and generate a second plurality of keywords by editing the first plurality of keywords, wherein the simulation of the oilfield reservoir is further based on the second plurality of keywords.

36. (New) The simulation system of claim 20, wherein the output device comprises a results viewer.

37. (New) The simulation system of claim 20, further comprising:

a report generator for generating a report documenting the plurality of simulation results.

38. (New) The computer readable medium of claim 22, wherein the plurality of scenarios further comprises a plurality of permeability parameters, a plurality of pressure parameters, and a plurality of temperature parameters describing the oilfield reservoir.

39. (New) The computer readable medium of claim 22, wherein the first case further comprises a radial model type.

40. (New) The computer readable medium of claim 22, the instructions further comprising functionality to:

obtain a first plurality of keywords from the plurality of simulator input files;  
generate a second plurality of keywords by editing the first plurality of keywords; and  
submit the second plurality of keywords to the simulator, wherein the simulation of the oilfield reservoir is further based on the second plurality of keywords.

41. (New) The computer readable medium of claim 22, the instructions further comprising functionality to:

store the plurality of simulation results in a results file.

42. (New) The computer readable medium of claim 22, the instructions further comprising functionality to:

generate a report documenting the plurality of simulation results.

43. (New) The computer system of claim 24, wherein the plurality of scenarios further comprises a plurality of permeability parameters, a plurality of pressure parameters, and a plurality of temperature parameters describing the oilfield reservoir.
44. (New) The computer system of claim 24, wherein the first case further comprises a radial model type.
45. (New) The computer system of claim 24, the instructions further comprising functionality to:  
obtain a first plurality of keywords from the plurality of simulator input files;  
generate a second plurality of keywords by editing the first plurality of keywords; and  
submit the second plurality of keywords to the simulator, wherein the simulation of the oilfield reservoir is further based on the second plurality of keywords.
46. (New) The computer system of claim 24, the instructions further comprising functionality to:  
store the plurality of simulation results in a results file.
47. (New) The computer system of claim 24, the instructions further comprising functionality to:  
generate a report documenting the plurality of simulation results.